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抗肺癌单克隆抗体15A1的靶抗原在肺癌细胞中的表达及其转位特征 [点此下载全文](#)

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摘要:

目的: 分析抗肺癌单克隆抗体15A1的靶抗原在肺癌细胞的表达、亚细胞定位和转位的特征, 研究15A1的体内外抑瘤功能, 为肺癌靶向治疗提供候选抗体药物及靶标。方法: 采用免疫荧光及细胞流式术检测单克隆抗体15A1靶抗原在肺癌细胞中的表达及定位, 免疫组化分析其在人肺癌组织中的表达; CCK-8法和裸鼠移植瘤体内抗体抑瘤实验评估该单克隆抗体对肺癌细胞的抑制作用。结果: 单克隆抗体15A1识别的抗原在人肺腺癌细胞(A549、ANIP-973、GLC-82、Calu-3、H157、H1299)、人肺鳞癌细胞(GLC-P、H520)、人小细胞肺癌细胞(H446、H209)、人大细胞肺癌细胞(PG、H460)共12种细胞的胞内及胞膜上均有表达, 肺腺癌细胞的表达强度明显高于其他病理类型肺癌细胞, 该抗原在75%的人肺癌组织中非常特异地上调表达。该抗原在肺腺癌细胞中相当一部分从胞核转位至胞质, 在肺鳞癌细胞中仅有小部分从胞核转位至胞质; 转位抗原的一部分表达于膜表面, 并同样是肺腺癌细胞的表达强度强于肺鳞癌细胞。该单克隆抗体体内外显著抑制肺癌细胞的生长, 抑瘤率在25%~80%。结论: 单克隆抗体15A1在体内外能显著抑制肺癌的生长, 其靶抗原在人肺癌组织和细胞中特异上调表达, 并能以特定转位模式表达于肺癌细胞膜上, 可能是一个肺癌靶向治疗的潜在靶标。

关键词: 肺癌 功能性单克隆抗体 靶抗原 靶向治疗 转位 靶标

Expression and translocation of targeted antigen of anti-lung cancer 15A1 monoclonal antibody in lung cancer cells [Download Fulltext](#)

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Abstract:

Objective: To study the expression, subcellular localization and translocation of the targeted antigen of anti-lung cancer 15A1 mAb in lung cancer cells, and to study the inhibitory function of 15A1 mAb in vitro and in vivo against lung cancer cells, so as to provide target and antibody drug candidate for targeted therapy of lung cancer. Methods: The expression and localization of the targeted antigen of 15A1 mAb in lung cancer cell lines and lung cancer tissues were studied by immunofluorescence and flow cytometry. CCK-8 proliferation assay and tumor xenograft experiment were performed to evaluate the inhibitory function of 15A1 mAb against lung cancer cells in vitro and in vivo. Results: The antigen of 15A1 mAb was expressed in the cytoplasm and cell surface of 12 lung cancer cell lines, including human lung adenocarcinoma cell lines (A549, ANIP-793, GLC-82, Calu-3, H157, H1299), squamous carcinoma cell lines (GLC-P, H520), small cell lung cancer cell lines (H446, H209), and large cell lung cancer cell lines (PG, H460), with the highest expression level seen in the adenocarcinoma cell lines. The upregulated expression of the targeted antigen of 15A1 mAb was found in about 75% of human lung cancer tissues. Most targeted antigen translocated from the nucleus to cytoplasm in lung adenocarcinoma cells, but only part of the antigen translocated to the cytoplasm in lung squamous carcinoma cells. Some antigen also translocated to the cell membrane, which was more significantly in adenocarcinoma cells than in squamous carcinoma cells. The 15A1 mAb greatly suppressed proliferation of lung cancer cells in vivo and in vitro, with the inhibitory rate being 25% [KG-*2] [DK]-80%. Conclusion: The 15A1 mAb can significantly inhibit growth of lung cancer cells

in vivo and in vitro, and its targeted antigen is highly expressed on human lung cancer tissues and cells and can translocate to the cell surface, suggesting that 15A1 mAb might become a candidate target for lung cancer therapy.

Keywords:[lung cancer](#) [functional monoclonal antibody](#) [targeted antigen](#) [targeted therapy](#) [translocation](#) [target](#)

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